CentOS Bringup For J784S4 Board

Procedure -

1. Site followed - https://sig.centos.org/automotive/provisioning/flashing-texas-instruments/
2. Prebuilt image –
    1. https://download.autosd.sig.centos.org/AutoSD-9/nightly/TI/auto-osbuild-j784s4evm-autosd9-qa-regular-aarch64-2208122337.e5a9b30b.raw.xz
3. To uncompress the image - $ xz -d =/home/sanskruti/Downloads/auto-osbuild-j784s4evm-autosd9-qa-regular-aarch64-2208122337.e5a9b30b.raw.xz
4. To flash image to sd card - sudo dd if=/home/sanskruti/Downloads/auto-osbuild-j784s4evm-autosd9-qa-regular-aarch64-2208122337.e5a9b30b.raw of=/dev/mmcblk0p bs=4M status=progress conv=fsync

Output - (Logs after plug in the SD card to board)

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U-Boot SPL 2025.07-3.el9 (Sep 29 2025 - 00:00:00 +0000)

SYSFW ABI: 4.0 (firmware rev 0x000b '11.0.9--v11.00.09+ (Fancy Rat)')

Initialized 4 DRAM controllers

SPL initial stack usage: 13456 bytes

Trying to boot from MMC2

Loading Environment from nowhere... OK

Starting ATF on ARM64 core...


NOTICE:  BL31: v2.13.0(debug):

NOTICE:  BL31: Built : 00:00:00, Sep 29 2025

INFO:    GICv3 without legacy support detected.

INFO:    ARM GICv3 driver initialized in EL3

INFO:    Maximum SPI INTID supported: 991

INFO:    SYSFW ABI: 4.0 (firmware rev 0x000b '11.0.9--v11.00.09+ (Fancy Rat)')
```

```
INFO:   BL31: Initializing runtime services
INFO:   BL31: cortex_a72: CPU workaround for erratum 1319367 was applied
INFO:   BL31: cortex_a72: CPU workaround for CVE 2018_3639 was applied
INFO:   BL31: cortex_a72: CPU workaround for CVE 2022_23960 was applied
INFO:   BL31: Initializing BL32
I/TC:
I/TC: OP-TEE version: Unknown_4.6 (gcc version 12.1.1 20220507 (Red Hat Cross 12.1.1-1) (GCC)) #1 Mon Sep 24
I/TC: WARNING: This OP-TEE configuration might be insecure!
I/TC: WARNING: Please check https://optee.readthedocs.io/en/latest/architecture/porting_guidelines.html
I/TC: Primary CPU initializing
I/TC: GIC redistributor base address not provided
I/TC: Assuming default GIC group status and modifier
I/TC: SYSFW ABI: 4.0 (firmware rev 0x000b '11.0.9--v11.00.09+ (Fancy Rat)')
I/TC: Activated SA2UL device
I/TC: Fixing SA2UL firewall owner for GP device
I/TC: Enabled firewalls for SA2UL TRNG device
I/TC: SA2UL TRNG initialized
I/TC: SA2UL Drivers initialized
I/TC: HUK Initialized
I/TC: Primary CPU switching to normal world boot
INFO:   BL31: Preparing for EL3 exit to normal world
INFO:   Entry point address = 0x80080000
INFO:   SPSR = 0x3c9

U-Boot SPL 2025.07-3.el9 (Sep 29 2025 - 00:00:00 +0000)
SYSFW ABI: 4.0 (firmware rev 0x000b '11.0.9--v11.00.09+ (Fancy Rat)')
Trying to boot from MMC2
```

```
U-Boot 2025.07-3.el9 (Sep 29 2025 - 00:00:00 +0000)

SoC:   J784S4 SR1.0 GP
Model: Texas Instruments J784S4 EVM
DRAM:  2 GiB (total 32 GiB)
cdns3_bind: unsupported dr_mode
Core:  135 devices, 34 uclasses, devicetree: separate
Flash: 0 Bytes
MMC:   mmc@4f80000: 0, mmc@4fb0000: 1
Loading Environment from nowhere... OK
In:    serial@2880000
Out:   serial@2880000
Err:   serial@2880000
am65_cpsw_nuss ethernet@46000000: K3 CPSW: nuss_ver: 0x6BA02102
cpsw_ver: 0x6BA82102 ale_ver: 0x00293904 Po1
Net:   eth0: ethernet@46000000port@1
Hit any key to stop autoboot:  0
switch to partitions #0, OK
mmc1 is current device
SD/MMC found on device 1
Failed to load 'uEnv.txt'
Scanning for bootflows in all bootdevs
Seq  Method     State   Uclass    Part  Name                      Filename
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Scanning global bootmeth 'efi_mgr':
Cannot persist EFI variables without system partition
  0  efi_mgr     ready   (none)      0  <NULL>
```

** Booting bootflow '<NULL>' with efi_mgr

Booting: Label: mmc 1 Device path: /VenHw(e61d73b9-a384-4acc-aeab-82e828f3628b,0000000000000000)/VenHw(e61d)

Starting ukiboot version 0.2.0

Unable to find ukibootctl partition

Unable to find active slot

Error: Unable to boot (Not Found)

Application failed, r = 14

Boot failed (err=-14)

Scanning bootdev 'mmc@4fb0000.bootdev':

1 efi ready mmc 1 mmc@4fb0000.bootdev.part_ /EFI/BOOT/BOOTAA64.EFI

** Booting bootflow 'mmc@4fb0000.bootdev.part_1' with efi

Booting /\EFI\BOOT\BOOTAA64.EFI

Starting ukiboot version 0.2.0

Unable to find ukibootctl partition

Unable to find active slot

Error: Unable to boot (Not Found)

Application failed, r = 14

Boot failed (err=-22)

Scanning bootdev 'mmc@4f80000.bootdev':

No USB controllers found

Scanning bootdev 'port@1.bootdev':

k3-navss-ringacc ringacc@2b800000: Ring Accelerator probed rings:286, gp-rings[96,20] sci-dev-id:328

k3-navss-ringacc ringacc@2b800000: dma-ring-reset-quirk: disabled

am65_cpsw_nuss_port ethernet@46000000port@1: K3 CPSW: rflow_id_base: 3

ethernet@46000000port@1 Waiting for PHY auto negotiation to complete..... TIMEOUT !

am65_cpsw_nuss_port ethernet@46000000port@1: phy_startup failed

am65_cpsw_nuss_port ethernet@46000000port@1: am65_cpsw_start end error

BOOTP broadcast 1

BOOTP broadcast 2

BOOTP broadcast 3

BOOTP broadcast 4

BOOTP broadcast 5

BOOTP broadcast 6

BOOTP broadcast 7

BOOTP broadcast 8

BOOTP broadcast 9

BOOTP broadcast 10

BOOTP broadcast 11

BOOTP broadcast 12

BOOTP broadcast 13

BOOTP broadcast 14

BOOTP broadcast 15

BOOTP broadcast 16

BOOTP broadcast 17

Retry time exceeded; starting again

Scanning bootdev 'port@1.bootdev':

am65_cpsw_nuss_port ethernet@46000000port@1: K3 CPSW: rflow_id_base: 3

ethernet@46000000port@1 Waiting for PHY auto negotiation to complete.....
TIMEOUT !

am65_cpsw_nuss_port ethernet@46000000port@1: phy_startup failed

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BOOTP broadcast 10

BOOTP broadcast 11

BOOTP broadcast 12

BOOTP broadcast 13

BOOTP broadcast 14

BOOTP broadcast 15

BOOTP broadcast 16

BOOTP broadcast 17

Retry time exceeded; starting again

No more bootdevs

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(2 bootflows, 2 valid)

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